National Drought Summary for September 12, 2023

Summary

Widespread precipitation amounts of 0.5 to 2 inches (locally more) were observed across much of the Great Plains, Upper Mississippi Valley, and East. Improvements were made to areas that received the heaviest amounts. In the wake of a cold front, 7-day (September 5 to 11) temperatures averaged near to slightly below normal for the Northern Great Plains and Upper Midwest. Farther to the south, above-normal temperatures continued across the southern Great Plains and western Gulf Coast. Since early August, persistent excessive heat coupled with a lack of adequate rainfall led to a rapid onset and intensification of drought from Texas eastward to the Lower Mississippi Valley and parts of the Southeast. Monsoon rainfall began to decrease throughout the Four Corners region and Southwest during early September, while seasonal dryness prevailed along the West Coast.

Northeast

A slow-moving low pressure system resulted in rounds of showers and thunderstorms across the Central Appalachians and Northern Mid-Atlantic. A 1-category improvement was made to areas that received the heaviest precipitation (more than 1.5 to 2 inches) and there was a positive response among the indicators. Northern West Virginia missed out on this past week's precipitation and there was a small increase in moderate drought (D1) for that area. Based on NDMCs drought blends, the drought impact for the Central Appalachians and Mid-Atlantic was changed from S (short-term) to SL (short and long-term).

Southeast

A slow-moving low pressure system resulted in rounds of heavy precipitation to the Southern Mid-Atlantic States. Similar to the Northeast Region, a 1-category improvement was made to areas that received the heaviest precipitation this past week and there was a positive response among the indicators. Despite the locally heavy precipitation across northern Virginia and the Shenandoah Valley, 28-day streamflows remain below the 10th percentile in many counties and support a continuation of severe drought (D2). 30 to 60-day SPEI, 28-day average streamflow, and soil moisture resulted in a broad 1-category degradation to the southern third of Alabama, southwestern Georgia, and the Florida Panhandle. Severe (D2) to extreme (D3) drought was expanded slightly south along the coast of southwestern Florida where year-to-date precipitation deficits continue to increase. Venice, Florida is having their driest year-to-date on record.

South

The rapid onset and intensification of drought continues throughout central and southern Mississippi. According to the NCEI, numerous counties in the southern half of Mississippi had their driest August on record and many of those counties have received less than 0.5 inch of precipitation during the first ten days of September. Along with this dryness, persistent above-normal temperatures have led to high evapotranspiration rates and worsening impacts to agriculture and high fire danger. Little change was made to Louisiana this week since the previous USDM map matches up well with the indicators (NDMC short-term blend and soil moisture) and many areas received at least a 0.5 inch of precipitation this past week. A 1-category degradation was warranted for southeastern Oklahoma and parts of Texas due to the prolonged excessive heat this summer and lack of adequate precipitation. The expansion of extreme (D3) to exceptional (D4) drought across central and eastern Texas was based largely on the 90-day SPEI and soil moisture indicators. Despite heavier rainfall (more than 1 inch) across west-central Texas, soil moisture indicators, 90-day SPEI, and NDMCs drought blends support a continuation of D2+ levels of drought. More than 1.5 to 2 inches of precipitation prompted a 1-category improvement to northwestern Oklahoma and the northeastern Texas Panhandle.

Midwest

A warm start to September and lack of adequate precipitation during the late summer resulted in a 1-category degradation to parts of the Midwest. The largest 30-day precipitation deficits (more than 3 inches) exist across much of Iowa, southern Minnesota, and southwestern Wisconsin. Conversely, heavy precipitation supported a 1-category improvement across northeastern Minnesota and northwestern Wisconsin. Abnormal dryness (D0) and moderate short-term drought (D1) was expanded across parts of Illinois, Indiana, northern Kentucky, and Ohio due to increasing short-term precipitation deficits. The one exception was northeastern Illinois which received more than 2 inches of rainfall recently and led to the elimination of D0. Extreme drought (D3) was expanded across southwestern Missouri, based on 120-day to 6-month SPIs and soil moisture.

High Plains

Heavy rainfall (1.5 to 3 inches, locally more) prompted a 1-category improvement to southwestern Kansas along with parts of Nebraska. Also, NDMCs drought blends were a factor in these improvements. Conversely, 30-day SPEI and soil moisture supported

small degradations across eastern parts of Kansas. Worsening soil moisture indicators led to an expansion of severe drought (D2) across northeastern North Dakota.

West

Much of the West was status quo this week as Monsoon rainfall begins to decrease during September and this is a drier time of year for California and the Pacific Northwest. However, low 28-day streamflows and SPEI at various time scales led to an expansion of severe drought (D2) across coastal Washington and northwestern Oregon.

Caribbean

No changes were made this week to Puerto Rico with the heaviest precipitation occurring outside of the moderate drought area.

This week, hot and drier-than-normal conditions continued across the U.S. Virgin Islands. The weekly rainfall reports showed that the three islands (i.e., St. Thomas, St. John and St. Croix) had less than 0.75 inches of rain this week. The 1-, 6- and 9-month Standardized Precipitation (SPI) maps showed that moderate to extreme drought conditions have prevailed across the three islands. Thus, St. Thomas and St. Croix remained in extreme drought, while St. John deteriorated from moderate to severe drought.

Specifically, St. John (Rafe Boulon/Windswept Beach) received 0.37 inches of rain this week. The depth to water level at Susannaberg DPW 3 well (St. John, USVI) on September 12, 2023 was 20.05 ft below land surface. The water level below land surface continued increasing this week, showing that St. John is deteriorating to severe drought conditions. In addition, the 1-month SPI at St. John showed severe drought conditions in the past couple of weeks, while 6- and 9-month SPIs showed moderate drought. Thus, St. John degraded to severe drought (D2-SL) for this week.

This week, St. Thomas (Cyril E. King Airport) recorded 0.53 inches of rain. The depth to water level at Grade School 3 well (St. Thomas, USVI) on September 12, 2023 was 11.67 ft below land surface. Even though a slight increase in depth to water level this week was observed, the depth is still over 11.6 ft, indicating the persistence of extreme drought. The SPI maps also showed that St. Thomas is still in severe to extreme drought. Thus, St. Thomas remained in short- and long-term extreme drought.

St. Croix (Henry Rohlsen AP) reported 0.13 inches of rain this week. The depth to water level at Adventure 28 Well (St. Croix, USVI) on September 12, 2023 was 34.17 ft below land surface, slightly increasing from last week. Thus, St. Croix remained in short- and long-term extreme drought (D3-SL).

Pacific

The coverage of abnormal dryness (D0) decreased across the eastern interior of Mainland Alaska due to recent precipitation.

Lighter trade winds resulted in a drier-than-normal week for Hawaii and drought either expanded or intensified across Kauai, Maui, and the Big Island.

Normal conditions prevailed across most parts of the Marshall Islands this week. Ailinglapalap received no rain this week. However, because of heavy rain (4.69 inches) last week, Ailinglapalap remained drought free. No rain was reported on Jaluit, which received 1.45 inches of rain last week. However, the island had over 2.6 inches of weekly rain for two consecutive weeks in the second half of August to remain free of drought. On Mili, 1.52 inches of rain was observed this week. Heavy rainfall was reported on Milli in the past eight weeks, and the island remains drought free. Kwajalein received 1.05 inches of rain this week with three days missing. Last week, Kwajalein received 2.36 inches of rain, resulting in drought-free conditions for this week. This week, 0.13 inches of rain was reported on Majuro. Even though Majuro received only 1.79 inches last week, wetter-than-normal conditions (heavy rains) were reported in the previous consecutive two weeks (i.e., 3.34 and 4.73 inches of rain, respectively), allowing the island to remain free of dryness. This week, 0.68 inches of rain was reported on Wotje. However, based on the local experts advice and impact reports, Wotje is in an abnormally dry condition. No depiction was made for Utirik due to missing data.

Pago Pago reported 7.87 inches of rain this week. However, Pago Pago was drier than normal for the past seven weeks. This week, Siufaga Ridge and Toa Ridge observed 8.32 and 4.77 inches of rain, respectively. Even though American Samoa received heavy rainfall this week, the local experts reported yellowish and brownish grass at most of the areas at the southern shores of Tutuila, ASPA water pumps levels are low, and rain gauges recording below normal rainfall since June. Thus, conditions on American Samoa have remained in short-term moderate drought.

Palau IAP (Airai) reported 2.41 inches of rain this week (one day missing). Koror COOP station also reported 2.52 inches of rain (two days missing). Thus, the island remained free of drought or abnormal dryness.

This week, wet conditions continued across the Mariana Islands, which reported heavy rains. On Saipan, 7.01 inches of rain was observed this week. In addition, Saipan (IAP, manual gauge) received 6.23 inches with one day missing. In addition, Rota and Guam received weekly totals of 5.5 and 5.21 inches of rain, respectively.

Near-normal conditions prevailed across much of the Federated States of Micronesia. This week, 0.84 inches of rain was reported on Fananu. The past three weeks, Fananu

received 2.06, 4.84 and 6.01 inches of rain, respectively. The monthly rainfall for August was also 10.56 inches, allowing Fananu to be free from abnormally dry conditions. This week, Kapingamarangi and Kosrae reported 3.97 and 1.17 inches of rain, respectively, to remain free of drought. Wet conditions were observed on Pohnpei, Nukuoro, Chuuk, Ulithi and Woleai, reporting 2.92, 2.68, 2.42, 3.07 and 2.90 inches of rainfall this week, respectively. Lukunoch had a weekly rainfall amount of 1.99 inches with two days unaccounted for, while Yap reported rainfall totals of 1.49 inches of rain. These locations remained free of drought and abnormal dryness this week due to the wet conditions that prevailed in the past four months. On Pingelap, 2.37 inches of rain was reported this week. However, except for the week of August 29, Pingelap was in drier-than-normal condition in the past six weeks. Thus, Pingelap remained in short-term abnormal dryness due to previous dry weeks.

Looking Ahead

During the next five days (September 14 - 18, 2023), moderate to heavy precipitation (0.5 to 2 inches, locally more) is forecast for the southern Great Plains, western Gulf Coast, and Florida Peninsula. Hurricane Lee is forecast to track near New England and could bring heavy precipitation to coastal New England. Elsewhere, across the eastern and central U.S., mostly dry weather is forecast. Dry weather, typical for this time of year, is also forecast across California and the Pacific Northwest.

The Climate Prediction Centers 6-10 day outlook (valid September 19-23, 2023) favors above-normal precipitation across the Great Plains and northern to central Rockies. Below-normal precipitation is most likely across the Northeast, Mid-Atlantic, eastern Corn Belt, and Tennessee Valley. Increased above (below)-normal temperature probabilities are forecast for the central (western) U.S., while 5-day temperatures are likely to average close to normal throughout the East.

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